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phrase "less than about" is "indefinite as 'less than' defines a lower limit, while the term 'about' contradicts the value of the lower limit." The Examiner also asserted that the word "derivative" in claims 36, 38, 66 and 68 is indefinite "because the claims include elements not actually disclosed." Applicants respectfully request reconsideration of the indefiniteness rejections based upon the following remarks.

With all due respect, the Examiner has incorrectly cited the MPEP with respect to the term "about." Specifically, the Examiner implies that the MPEP mandates that the phrase "less than about" is indefinite. As noted in the MPEP section 2173.05(b), the phrase "exceeding about 10% per second" is definite in appropriate circumstances. See, W.L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303 (Fed. Cir. 1983). Furthermore, the term "at least about" was only held indefinite under the circumstances in which there was close prior art **and** there was nothing in the specification, prosecution history or the prior art to provide any indication with respect to the range of specific activity. Amgen Inc. v. Chugi Pharmaceutical Co. Ltd., 18 USPQ2d 1016 (Fed. Cir. 1991).

The Federal Circuit in Amgen explicitly indicated that the term "about" does not lead to indefiniteness in all circumstances. "In arriving at our conclusion, we caution that our holding that the term 'about' renders claims 4 and 6 indefinite should not be understood as ruling out any and all uses of this term in patent claims. It may be acceptable in appropriate fact situations, ..., even though it is not here." Id., at 1031 (citation to W.L. Gore & Assocs., Inc. v. Garlock, Inc. omitted).

More recent Federal Circuit cases have consistently allowed non-quantitative claim language as being definite where the fact situations have been different from the facts situation in Amgen. For example, the Federal Circuit found that the phrase "to increase substantially" was not indefinite since the term did not "introduce any insoluble ambiguity into the claims." Exxon Research And Engineering Co. v. U.S., 60 USPQ2d 1272, 1278 (Fed. Cir. 2001). Similarly, the

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phrase "relatively small" did not render a corresponding set of claims indefinite. "However, as we discussed *ante*, technical terms are not *per se* indefinite when expressed in qualitative terms without numerical limits." Modine Manufacturing Co. v. International Trade Commission, 37 USPQ2d 1609, 1617 (Fed. Cir. 1996). Since there was no close prior art, "[i]t was evident from the prosecution history that the patentability of claims 9 and 10 did not require an exact numerical limit of the hydraulic cylinder." Id.

With respect to the present claims, the measurement of small distances inherently involves some uncertainty in the measurement. The boundaries of the claim are clear to a person of ordinary skill in the art. Thus, Applicants believe that the Examiner has failed to assert a prima facie case of indefiniteness.

With respect to claims 36 and 38, the Examiner asserts that the word "derivative" renders these claims indefinite. Specifically, the Examiner asserts that "[t]he identity of the derivatives of the electrode material are unclear and include elements not actually disclosed. Thus, the scope of the claim(s) are unascertainable." Office Action at page 3. The Examiner, however, fails to connect the two concepts in the above quotation. Applicants believe that all the species do not have to be explicitly disclosed to make the scope of the claim ascertainable. The issue is whether a potential infringer can evaluate the claim scope.

"We have stated the standard for assessing whether a patent claim is sufficiently definite to satisfy the statutory requirement as follows: If one skilled in the art would understand the bounds of the claim when read in light of the specification, then the claim satisfies section 112 paragraph 2." Exxon Research and Engineering Co., 60 USPQ2d at 1276.

The Examiner does not seem to dispute that a person of ordinary skill in the art can ascertain whether a particular compound would be a "derivative" within the claim language. The law requires no more. When genus terms are used in a claim, the specification generally does not list all of the species. For example, the genus halogen substituted alkanes would include

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virtually countless species, although its scope is quite clear and there is no reason to list all of the species individually. As stated in MPEP 2173.04, "Breadth of a claim is not to be equated with indefiniteness."

Applicants maintain that the claims are definite. Applicants respectfully request withdrawal of the rejection of claims 29-44, 52-54 and 58-77 under 35 U.S.C. § 112, second paragraph, as being indefinite.

35 U.S.C. § 102 Rejection

The Examiner rejected claims 29-33, 39, 53, 58-63, 69 and 76 under 35 U.S.C. § 102(c) asserting that claims 29-33, 39, 53, 58-63, 69 and 76 are anticipated by U.S. patent 6,033,805 to Dansui et al. (the Dansui patent). Specifically, the Examiner asserted that the Dansui patent teaches a "battery comprising a positive electrode, a negative electrode and a polymer separator between the positive and negative electrodes. An electrode has an average thickness of less than about 10 microns. For example, column 3, lines 5-10 shows an electrode layer of 10-60 microns on a collector foil and claim 16 shows a layer of 10-60 microns on each side of the foil." Applicants have amended their claims to more particularly point out their claimed invention. The Dansui patent does not disclose all of the elements of the as amended claims. Thus, the Dansui patent does not prima facie anticipate Applicants' claimed invention. Applicants respectfully request reconsideration of the rejection in view of the following comments.

As noted above, the Examiner asserted that the Dansui patent "shows an electrode layer of 10-60 microns on a collector foil." However, the Dansui patent does not disclose an electrode with an average thickness less than about 9.5 microns. In contrast, Applicants' invention, as claimed in independent claims 29 and 59, relates to a battery "wherein at least one of the electrodes has an average thickness less than about 9.5 microns." Because the Dansui patent fails to disclose an electrode with an average thickness of less than 9.5 microns, the Danusi patent does not prima facie anticipate Applicants' claimed invention.

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Since the Dansui patent does not anticipate Applicants' claimed invention, Applicants respectfully request the withdrawal of the rejection under 35 U.S.C. § 102(e) as being anticipated by the Dansui patent.

35 U.S.C. § 103(a) Rejections

A. Rejection over the Dansui patent in view of the Satoh patent

The Examiner rejected claims 34, 35, 37, 38, 41, 42, 43, 44, 52, 54, 64, 65, 67, 68, 71, 72, 73, 74, 75, and 77 under 35 U.S.C. § 103(a) as being unpatentable over the Dansui patent in view of U.S. patent 5,571,638 to Satoh et al. (the Satoh patent). Specifically, the Examiner asserted that the Dansui patent teaches an electrode with "an average thickness of less than about 10 microns." Furthermore, the Examiner cited the Satoh patent for teaching various features of the dependent claims and an active material for an electrode comprising "metal oxide electroactive particles having an average diameter of less than about 500 nm." Since the references do not teach or suggest an electrode with an average thickness as claimed by Applicants, Applicants submit that the Dansui patent and the Satoh patent, taken alone or in combination, do not render Applicants' claimed invention *prima facie* obvious. Applicants respectfully request reconsideration of the rejection based upon the following comments.

Claims 34, 35, 37, 38, 41, 42, 43, 44, 52, 54, 64, 65, 67, 68, 71, 72, 73, 74, 75, and 77 all depend on either independent claim 29 or 59, and as such incorporate all of the elements of the independent claim from which they depend. As noted above, the Dansui patent does not teach or suggest an electrode with an average thickness less than about 9.5 microns. In contrast, Applicants invention, as claimed in independent claims 29 and 59, relates to a battery "wherein at least one of the electrodes has an average thickness less than about 9.5 microns." Furthermore, the Satoh patent does not make up for the deficiencies of the Dansui patent because the Satoh patent does not teach or suggest a electrode with an average thickness less than about 9.5 microns. Since neither the Danusi patent nor the Satoh patent teach or suggest an electrode

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with an average thickness of less than about 9.5 microns, the Dansui patent and the Satoh patent, taken alone or in combination, do not render Applicants' claimed invention prima facie obvious.

With respect to Examiner's arguments specifically directed towards specific features of the dependent claims, Applicants have not responded to these arguments because they are moot in view of the comments presented above.

Because the combined teachings of the Dansui patent and the Satoh patent do not render Applicants claimed invention prima facie obvious, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a) as being unpatentable over the Dansui patent in view of the Satoh patent.

B. Rejection over the Dansui patent in view of the Kawakami patent

The Examiner rejected claims 34-43, 53, 64-68, 70-73 and 76-77 under 35 U.S.C. § 103(a) as being unpatentable over the Dansui patent in view of U.S. patent 6,165,642 to Kawakami et al. (the Kawakami patent). Specifically, the Examiner asserted that the Dansui patent teaches an electrode with a thickness of 10 microns and that the Kawakami patent teaches various features of the dependent claims and an electrode active material comprising "metal oxide electroactive particles having an average diameter of less than about 500 nm." Applicants submit that the Dansui patent and the Kawakami patent, taken alone or in combination, do not render Applicants' claimed invention prima facie obvious since they do not teach or suggest an electrode with an average thickness less than about 9.5 microns. Applicants respectfully request reconsideration of the rejection based upon the following remarks.

Claims 34-43, 53, 64-68, 70-73 and 76-77 all depend on either independent claim 29 or 59, and as such incorporate all of the limitations of the respective independent claim. As noted above, the Dansui patent does not teach or suggest an electrode with a thickness less than about 9.5 microns. Furthermore, the Kawakami patent does not teach or suggest an electrode with an average thickness less than about 9.5 microns. In contrast, as noted above, Applicants invention,

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as claimed in independent claims 29 and 59, relates to a battery "wherein at least one electrode has an average thickness less than about 9.5 microns." Since neither the Dansui patent nor the Kawakami patent teach or suggest an electrode with an average thickness less than about 9.5 microns, the the Dansui patent and the Kawakami patent, taken alone or in combination, do not render Applicants' claimed invention prima facie obvious.

Because the combination of the Dansui patent and the Kawakami patent does not render Applicants' claimed invention prima facie obvious, Applicants respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a) as being unpatentable over the Dansui patent in view of the Kawakami patent.

C. Rejections over the Dansui patent in view of the Kawakami patent in further view of the Miyasaka patent

The Examier rejected claims 36 and 66 under 35 U.S.C. § 103(a) as being unpatentable over the Dansui patent in view of the Kawakami patent, and further in view of U.S. patent 6,037,095 to Miyasaka et al. (the Miyasaka patent). The Examiner cited the Dansui patent and the Kawakami patent for the reasons discussed above. The Examiner cited the Miyasaka patent for the asserted teaching of "a lithium ion secondary battery with a tin oxide anode or negative electrode." However, Applicants submit that the combination of the Dansui patent in view of the Kawakami patent, and in further view of the Miyasaka patent does not render Applicants' claimed invention prima facie obvious since they do not teach or suggest a battery with an electrode with an average thickness less than about 9.5 microns. Applicants respectfully request the withdrawal of the rejection based upon the following remarks.

Claims 36 and 66 depend on either claim 29 or 59 and as such incorporate all of the elements of the respective independent claims. As noted above, neither the Dansui patent nor the Kawakami patent teach or suggest an electrode with an average thickness less than about 9.5 microns. Furthermore, the Miyasaka patent does not make up for the deficiencies of the other

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references since the Miyasaka patent does not teach or suggest an electrode with an average thickness less than about 9.5 microns. In contrast, Applicants invention, as claimed in independent claims 29 and 59, relates to a battery "wherein at least one electrode has an average thickness less than about 9.5 microns." Since none of the cited references teaches or suggests this feature of Applicants' claimed invention, the references, taken alone or in combination, do not render Applicants' claimed invention *prima facie* obvious. In view of these deficiencies in the teachings of the cited references, consideration of additional features of the claims in view of the references is presently moot.

Because the combination of the Dansui patent, the Kawakami patent and the Miyasaka patent does not render Applicants' invention *prima facie* obvious, Applicants respectfully request the withdrawal of the rejection under 35 U.S.C. § 103(a) as being unpatentable over the Dansui patent in view of the Kawakami patent, and in further view of the Miyasaka patent.

CONCLUSION

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of this Application are respectfully requested. The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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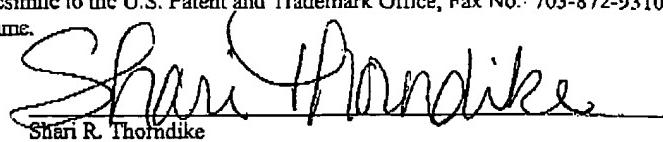
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April 18, 2003

Date


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ATTACHMENT
REDLINED AMENDMENTClaims As Amended

Please substitute the following amended claims for those currently pending:

29. (Three Times Amended) A battery comprising:

a positive electrode;
a negative electrode; and a
separator between the positive and negative electrode, wherein at least one of the electrodes has an average thickness less than about 9.5 [10] microns and comprises a powder, the powder comprising electroactive particles having an average primary particle diameter less than about 500 nm.

59. (Amended) A battery comprising:

a positive electrode;
a negative electrode;
a separator between the positive and the negative electrode, wherein at least one of the electrodes has an average thickness less than about 9.5 [10] microns and comprises a binder and electroactive particles having an average primary particle diameter less than about 500 nm.

Please add new claims 78-89 as follows:

78. (New) The battery of claim 29 wherein at least one of the electrodes has an average thickness less than about 5 microns.

79. (New) The battery of claim 29 wherein at least one of the electrodes has an average thickness from about 2.50 nm to about 2.5 microns.

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80. (New) The battery of claim 29 wherein at least one of the electrodes has an average thickness from about 300 nm to about 1 micron.

81. (New) The battery of claim 59 wherein at least one of the electrodes has an average thickness less than about 5 microns.

82. (New) The battery of claim 59 wherein at least one of the electrodes has an average thickness from about 250 nm to about 2.5 microns.

83. (New) The battery of claim 59 wherein at least one of the electrodes has an average thickness from about 300 nm to about 1 micron.

84. (New) A battery comprising:
a positive electrode;
a negative electrode;
at least one current collector; and a
separator between the positive and negative electrode, wherein at least one of the electrodes has an average thickness less than about 10 microns and wherein the at least one current collector has an average thickness less than about 4.5 microns.

85. (New) The battery of claim 84 wherein at least one of the electrodes has an average thickness less than about 9.5 microns.

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86. (New) The battery of claim 84 wherein the positive electrode has an average thickness less than 5 microns and comprises electroactive particles having an average primary particle diameter less than about 500 nm.

87. (New) The battery of claim 84 wherein the negative electrode has an average thickness less than 5 microns and comprises electroactive particles having an average primary particle diameter less than about 500 nm.

88. (New) The battery of claim 84 wherein the at least one current collector has an average thickness less than about 2.5 microns.

89. (New) The battery of claim 84 wherein the at least one current collector has an average thickness from about 0.25 microns to about 1 micron.